

conditions for purpose of recovering free metals; however, does not teach combining the contaminated soils with the recited additives to make a cementitious reactive melt. Further, Rostoker does not teach the forming of a amorphous solid.

Pichat, while teaching a process applicable to "all" types of waste, teaches a markedly different process using markedly different additive percentages. Pichat does not fully melt his product, resulting in partial sintering, with some particles which are crystallized and some which are not. (Column 3, lines 50-57). Further, Pichat does not quench nor does Pichat teach the forming of a non-leaching product. Pichat's original waste originally contains 0.5 ppm (*inter alia*) and the leachate from the product is 0.2 ppm Pb (*inter alia*). (Col. 3, line 37-39, Pichat).

Mason was cited as a method for processing wastes by glassifying the waste; however, Mason does not teach the quenching of the molten glass nor does it teach how to make a cementitious reactive melt. On the contrary, the glass that is formed is in a stable, non-reactive non-cementitious form and is for the storage of radioactive materials.

Meegoda teaches the remediation of chromium contaminated soils by vitrification. There is no suggestion of the addition of the additives recited in the claims nor is there any suggestion of quenching or the forming of a reactive cementitious melt. In fact, Meegoda teaches away from the forming of a reactive cementitious melt and blending with cement.

The Examiner cited Detering for a process for melting contaminated soil to produce a glassy product. However, there is no teaching of the addition of additives nor of

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quenching and further Detering speaks of the metal contaminates as being in the crystalline phase, therefore defining the product as not being amorphous. As such, Detering cannot be cited as teaching the preparation of a reactive cementitious amorphous material.

Finally, none of the above references cited in the present case teach the quenching of the reaction product in the presence of moist air, steam, or water. This is emphasized in the application as being an important step of the process and the failure of the art to teach this step when viewed in conjunction with the above stated deficiencies render the subject invention patentable over the art of record. Applicant notes that when following the process of the subject invention, the result is a non-leaching reactive melt product as claimed in claim 3 and an amorphous non-leaching mix as recited in claim 9. None of the art of record teaches a product which is both non-leaching and reactive. The amorphous product such as that of the subject invention should be non-leaching so that any heavy metals which form a part of its feed cannot later damage the environment. The advantages of being a reactive product are its ability to combine with portland cement to yield a stable, strong, blended cement. There is no suggestion in the art of the existence of such a product, much less the Applicants' process for preparing such a product. Further, the concept of a reactive, yet non-leaching product is not taught in the art.

With the above amendments and remarks, this application is considered ready for allowance. Should the Examiner be of the opinion that a telephone conference would expedite

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prosecution of the subject application, he is respectfully requested to call the undersigned at the
below-listed number.

Respectfully submitted,

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